REMARKS

Claims 1-3 and 7 are pending. Claim 8 has been cancelled. Claim 1 has been amended to recite that the support has a polypeptide of specifically recited amino acid sequences. Support for this amendment can be found in the specification at p. 10, ll. 12-14 and p. 11, ll. 9-13.

Rejection under 35 U.S.C. § 112, first paragraph, written description

Claim 8 has been rejected under 35 U.S.C. § 112, first paragraph, written description. This rejection is rendered moot by the cancellation of claim 8.

Rejection under 35 U.S.C. § 112, second paragraph

Claims 1-3, 7 and 8 have been rejected under 35 U.S.C. § 112, second paragraph. As to claim 8, this rejection is rendered moot by the cancellation of this claim. According to the Examiner, claim 1 is unclear based on the number of repeats of SEQ ID NO:56. Claim 1 as amended does not recite SEQ ID NO:56. Thus, this rejection should be withdrawn.

Rejection under 35 U.S.C. § 103(a)

Claims 1-3 and 7 have been rejected under 35 U.S.C. § 103(a) as obvious over Sanderson and Smith, J Virol. 1998 (Sanderson); Kistner et al., Developments in Biological Standardization, 1999 (Kistner); and U.S. Publication No. 2003/0108860 (Reiter).

According to the Examiner, Sanderson teaches the use of several different cellular adhesion molecules in immobilizing cells onto a tissue culture surface. The adhesion molecules include Pronectin F, fibronectin and collagen II. Further, according to the Examiner, the immobilized cells were used to produce vaccinia virus of the *Poxviridae* family in serum containing media. Office Action, p. 5. The Examiner acknowledges that Sanderson does not teach

the use of serum-free media in culturing the cells and virus, or the use of a microcarrier in culturing cells and virus. According to the Examiner, Kistner teaches producing influenza viruses in Vero cells attached to microcarriers, which contain denatured collagen with serum-free media. The Examiner states that Reiter teaches culturing Vero cells bound to microcarriers in serum-free media.

Applicants respectfully traverse this rejection. No combination of the references discloses or suggests a method of producing a virus comprising adhering cells to a support which has a polypeptide-of about 20,000 Mn having a structure where 5 (Arg Gly Asp) sequences and 5 (Gly Ala Gly Ala Gly Ser)$_3$ sequences (ProNectin F2) are alternately chemically bonded and free from animal-origin components, or a support which has a polypeptide of about 10,000 Mn having a structure where 3 (Arg Gly Asp) sequences and 3 (Gly Val Pro Gly Val)$_2$ Gly Gly (Gly Ala Gly Ala Gly Ser)$_3$ sequences (ProNectin 3) are alternately chemically bonded and free from animal-origin components; culturing the adhesive cells in a medium free from animal-origin components; subculturing the cultured adhesive cells using a cell dispersing agent free from animal-origin components; and then inoculating and proliferating a virus in the cells obtained by culturing the adhesive cells, thereby improving efficiency for producing a virus.

No combination of the references discloses or suggests using a support having a ProNectin 2 or a ProNectin 3 polypeptide. Sanderson discloses using the much larger FibroNectin F polypeptide than the instantly claimed ProNectin 2 or ProNectin 3 polypeptide (110,000 Mn vs. 20,000 Mn or 10,000 Mn, respectively). One of ordinary skill in the art would not have predicted that the claimed smaller ProNectin 2 molecule, with less than half (5 vs. 13) of the repeating sequences Arg Gly Asp and (Gly Ala Gly Ala Gly Ser)$_3$ sequences of ProNectin F would reasonably be successful in providing cell adhesion in view of prior art teaching the much larger

ProNectin F molecule. ProNectin 3 includes even fewer Arg Gly Asp repeats (3 vs. 13), and includes alternating repeats of (Gly Val Pro Gly Val)$_2$ Gly Gly (Gly Ala Gly Ala Gly Ser)$_3$ sequences instead of the (Gly Ala Gly Ala Gly Ser)$_3$ repeats of ProNectin F. Further, no combination of Kistner and Reiter teaches or suggests the claimed polypeptides. Accordingly, this rejection should be withdrawn.

Additionally, Sanderson, as acknowledged by the Examiner, and Kistner do not disclose or suggest that a medium free from animal-origin components would work. The Examiner contends that the denatured collagen of Kistner is not naturally occurring and therefore not of animal origin. However, the instant specification discloses that denatured collagen is of animal origin. See, specification, p. 1, 3rd through 6th line from the bottom ("[C]onventionally … there has been used a carrier containing animal-origin components such as a microcarrier coated with denatured pig collagen …"). See, *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) ("the specification is always highly relevant to the claim construction analysis). Additionally, as acknowledged by the Examiner, Kistner also employs porcine trypsin, an animal-origin component. Sanderson discourages the use of system free of an animal-origin component. According to Sanderson: "[b]oth mock- and VV- [vaccinia virus] infected cells adhered well to coverslips coated with serum but not to uncoated (PBS) coverslips (Figs. 4A and D)." Sanderson, p. 9928, right col. Reiter does not disclose or suggest the claimed polypeptides.

Thus, no combination of the references discloses or suggests using the claimed ProNectin 2 and ProNectin 3 polypeptides. Further, Sanderson, which discloses ProNectin F, teaches that a serum-free system would not work, and Kistner teaches a method that does include animal origin components. For the reasons stated above, this rejection should be withdrawn.

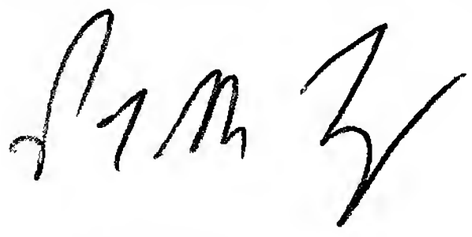
CONCLUSION

It is believed that all pending claims and the application are now in condition for allowance.

If the Examiner believes there are any remaining issues which can be resolved by a Supplemental Amendment or by an Examiner's Amendment, he is respectfully requested to contact the undersigned at the number indicated below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 associated with Customer No. 20277 and please credit any excess fees to such deposit account.

Respectfully submitted,
McDERMOTT WILL & EMERY LLP



Paul M. Zagar
Registration No. 52,392

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 212.547.5400 PMZ:MWE
Facsimile: 202.756.8087

Please recognize our Customer No. 20277 as our correspondence address.

Date: October 21, 2010